

$P'$  takes the place of  $P$ , and the new elements are functions of the original elements.  $\mu$  is determined from the condition that the new series must be of the same general form as the old. If, in addition,  $x$  be replaced by  $1/x$  another series is obtained. From these two new series, by proper substitution of the new derived elements, are obtained, almost by inspection, the twenty-four different series ordinarily given in works on differential equations.

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SECOND REPORT ON RECENT PROGRESS IN  
THE THEORY OF GROUPS OF  
FINITE ORDER.

BY PROFESSOR G. A. MILLER.

(Read before Section A of the American Association for the Advancement of Science, Pittsburg, July 2, 1902.)

THE main extensive treatments of this theory which have appeared during the four years since my first report was presented before this Section are: The articles in volume I of the *Encyclopädie der mathematischen Wissenschaften* on "Endliche discrete Gruppen," "Galois'sche Theorie mit Anwendung," and "Endliche Gruppen linearer Substitutionen," by Burkhardt, Hölder, and Wiman respectively; Weber, *Lehrbuch der Algebra*, second edition, volume 2, 1899; Bianchi, *Lezioni sulla teoria dei gruppi di sostituzioni*, 1899; \* Echegaray, *Lecciones sobre resolucion de ecuaciones y teoria de ecuaciones*, 1899; † Netto, *Vorlesungen über Algebra*, volume 2, 1900; Pierpont, "Galois theory of algebraic equations," ‡ 1900; Dickson, *Linear groups*, 1901; Burnside and Panton, *Theory of equations*, volume 2, 1901.

In the present, as in my first report, it is my intention to avoid, as far as practicable, the consideration of those recent advances which have received considerable attention in these

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\* Printed edition of the work lithographed in 1897.

† Reviewed in *L'Enseignement Mathématique*, vol. 2 (1900), p. 227.

‡ *Annals of Math.*, 2d series, vols. 1 and 2.